

[0032] What is claimed is:

1. A method comprising:

detecting a modulation scheme of a received signal by estimating an energy of an effective channel tap which is outside of an effective channel time span.

2. The method of claim 1, wherein detecting comprises:

selecting a modulation hypothesis;

estimating the energy of the effective channel tap according to the modulation hypothesis to provide an estimated energy value; and

comparing the estimated energy value to an expected predetermined threshold to provide a detection value.

3. The method of claim 2, comprising:

repeating the selecting and comparing if the detection value indicates a misdetection of the modulation scheme.

4. The method of claim 2, comprising:

stopping detection of the modulation scheme if the detection value indicates a detection of the modulation scheme.

5. The method of claim 1 wherein detecting comprises:

estimating an energy of two or more effective channel taps which are outside of the effective channel time span.

6. The method of claim 5, comprising:

selecting a modulation hypothesis;

summing estimated energy values of the two or more effective channel taps to provide a sum of estimated energy values; and

comparing a value of an energy of an effective channel tap according to the modulation hypothesis to the sum of estimated energy values to provide a detection value.

comparing a value of an energy of an effective channel tap according to the modulation hypothesis to the sum of estimated energy values to provide a detection value.

7. The method of claim 6, comprising:

repeating selecting and comparing if the detection value indicates a misdetection of the modulation scheme.

8. The method of claim 6, comprising:

stopping detection of the modulation scheme if the comparison value indicates a detection of the modulation scheme.

9. A method comprising:

detecting a training sequence of a received signal by estimating an energy of an effective channel tap which is outside of an effective channel time span.

10. The method of claim 9, wherein detecting comprises:

selecting a training sequence hypothesis;  
estimating the energy of the effective channel tap according to the training sequence hypothesis to provide an estimated energy; and  
comparing a value of the estimated energy to an expected predetermined threshold to provide a detection value.

11. The method of claim 10, comprising:

repeating selecting and comparing if the detection value indicates misdetection of the training sequence.

12. The method of claim 10, comprising:

stopping detection of the training sequence of the received signal if the detection value indicates detection of the training sequence.

13. The method of claim 9, comprising:

selecting a training sequence hypothesis;  
summing estimated energy values of the two or more effective channel taps to provide a sum of estimated energy values; and  
comparing a value of an energy of an effective channel tap according to the training sequence hypothesis to the sum of estimated energy values to provide a detection value.

14. The method of claim 9, comprising:

repeating selecting and comparing if the detection value indicates misdetection of the training sequence.

15. The method of claim 13, comprising:

stopping detection of the training sequence of the received signal if the detection value indicates detection of the training sequence.

16. An apparatus comprising:

a detector to detect a property of a received signal by estimating an energy of a channel tap which is outside of a channel range.

17. The apparatus of claim 16, wherein the property is a modulation scheme of the receive signal and the apparatus further comprising:

a hypothesis selector to select a modulation hypothesis;  
an energy estimator to estimate an energy of a channel tap according to the modulation hypothesis to provide an estimated energy; and  
a comparator to compare a value of the estimated energy to an expected predetermined threshold.

18. The apparatus of claim 16, comprising:

an adder to sum estimated energy values of two or more channel taps to provide a sum of estimated energy values.

19. The apparatus of claim 16, wherein the property is a training sequence of the receive signal and the apparatus further comprising:

a hypothesis selector to select a training sequence hypothesis;  
an energy estimator to estimate an energy of a channel tap according to the training sequence hypothesis to provide estimated energy; and  
a comparator to compare a value of the estimated energy to expected predetermined threshold.

20. A wireless communication device comprising:

- an internal antenna to receive a signal;
- a detector to detect a property of the received signal by estimating an energy of a channel tap which is outside of a channel range.

21. The wireless communication device of claim 20, wherein the property is a modulation scheme of the receive signal and the apparatus further comprising:

- a hypothesis selector to select a modulation hypothesis;
- an energy estimator to estimate an energy of a channel tap according to the modulation hypothesis to provide an estimated energy; and
- a comparator to compare a value of the estimated energy to an expected predetermined threshold.

22. The wireless communication device of claim 20, comprising:

- an adder to sum estimated energy values of two or more channel taps to provide a sum of estimated energy values.

23. The wireless communication device of claim 20, wherein the property is a training sequence of the received signal and the apparatus further comprising:

- a hypothesis selector to select a training sequence hypothesis;
- an energy estimator to estimate an energy of a channel tap according to the training sequence hypothesis to provide estimated energy; and
- a comparator to compare a value of the estimated energy to expected predetermined threshold.

24. A wireless communication system comprising:

a wireless communication device includes a detector to detect a property of the received signal by estimating an energy of a channel tap which is outside of a channel range.

25. The wireless communication system of claim 24, wherein the property is a modulation scheme of the received signal and the apparatus further comprising:

a hypothesis selector to select a modulation hypothesis;  
an energy estimator to estimate an energy of a channel tap according to the modulation hypothesis to provide an estimated energy; and  
a comparator to compare a value of the estimated energy to an expected predetermined threshold.

26. The wireless communication system of claim 24, comprising:

an adder to sum estimated energy values of two or more channel taps to provide a sum of estimated energy values.

27. The wireless communication system of claim 24, wherein the property is a training sequence of the received signal and the apparatus further comprising:

a hypothesis selector to select a training sequence hypothesis;  
an energy estimator to estimate an energy of a channel tap according to the training sequence hypothesis to provide estimated energy; and  
a comparator to compare a value of the estimated energy to expected predetermined threshold.

28. An article comprising: a storage medium, having stored thereon instructions, that when executed, result in:

detecting a modulation scheme of a received signal by estimating an energy of an effective channel tap which is outside of an effective channel time span.

29. The article of claim 28, wherein the instructions, when executed, result in:

selecting a modulation hypothesis;

estimating the energy of the effective channel tap according to the modulation hypothesis to provide an estimated energy value; and

comparing the estimated energy value to an expected predetermined threshold to provide a detection value.

30. The article of claim 29, wherein the instructions, when executed, result in:

repeating the selecting and comparing if the detection value indicates a misdetection of the modulation scheme.

31. The article of claim 29, wherein the instructions, when executed, result in:

stopping detection of the modulation scheme if the detection value indicates a detection of the modulation scheme.

32. The article of claim 28, wherein the instructions, when executed, result in:

estimating an energy of two or more effective channel taps which are outside of the effective channel time span.

33. The article of claim 32, wherein the instructions, when executed, result in:

selecting a modulation hypothesis;

summing estimated energy values of the two or more effective channel taps to provide a sum of estimated energy values; and



comparing a value of an energy of an effective channel tap according to the modulation hypothesis to the sum of estimated energy values to provide a detection value.

34. The article of claim 33, wherein the instructions, when executed, result in:

repeating selecting and comparing if the detection value indicates a misdetection of the modulation scheme.

35. The article of claim 33, wherein the instructions, when executed, result in:

stopping detection of the modulation scheme if the comparison value indicates a detection of the modulation scheme.